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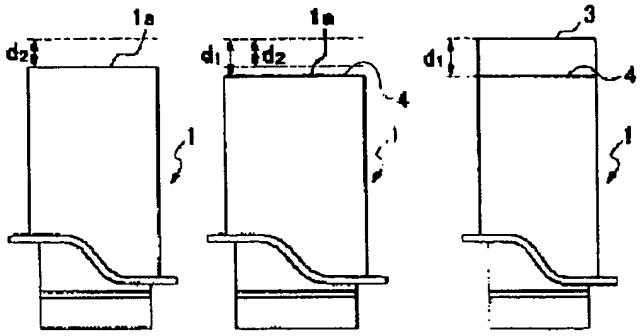
TITLE : METHOD OF REPAIRING PARTS OF DIRECTIONAL CONTROL CRYSTAL ALLOY



ABSTRACT : PROBLEM TO BE SOLVED: To restore a worn part with improved repair yield without changing crystallization of the repaired part by welding a secondary part, which is formed with the same crystal alloy as the original part in accordance with the dimension before the wearing of the part, to the worn part by liquid phase diffusion welding.

SOLUTION: Repairs are done on the tip end (worn part) 1a of the turbine blade (part) 1 formed with a directional control crystal alloy of Ni alloy or Co alloy. A secondary part 3 is formed in a width d1 wider than the worn part, with the same material as the turbine blade 1, in a shape corresponding to the dimension of the turbine blade 1 when new. If the tip end 1a of the blade is worn by the width d2, the tip end 1a is ground in conformity with the joined face so that it has the original dimension when welded, with an insert material 4 arranged that has a lower melting point than that of the directional control crystal alloy forming the turbine blade 1. The joined face is heated to the welding temperature while pressurized, and held for a specific time; the secondary part 3 is joined to the tip end 1a of the blade by liquid phase diffusion welding; and the turbine blade 1 is restored to the dimension before the abrasion.